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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/663,664	09/17/2003	I-Ru Liu	BHT - 3111 - 362	2473

7590 08/05/2008

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EXAMINER	
HU, RUI MENG	

ART UNIT	PAPER NUMBER
2618	

MAIL DATE	DELIVERY MODE
08/05/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/663,664	LIU, I-RU	
	Examiner	Art Unit	
	RuiMeng Hu	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 April 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7,9-17 and 20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7,9-17 and 20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed on 04/24/2008 have been fully considered but they are not persuasive.

Regarding **claim 1**, the examiner respectfully submits that Telewski does teach a control unit (figure 3, central computer system 134 controls processor 120) coupled to the signal generator (figure 3, processor 120 generates a transmit signal) and the attenuating device (attenuator 112A, transmitter 108 is considered an attenuator since the signal level of the transmitter 108 is adjustable) for controlling a generation of the signal (attenuating the transmit signal) and adjusting an attenuating range of the attenuating device (column 5 lines 39-43).

Regarding **claim 13**, Telewski discloses a method for wireless communication simulation comprising: generating a signal utilizing a signal generator (figure 3, central computer system 134, processor 120 and transmitter 108 for generating a transmit signal); attenuating (figure 3, attenuator 112A) the signal to generate an attenuated signal for simulating an attenuation resulting from a transmission of the signal (figure 3, attenuator 112A simulates attenuation of the transmission signal); transmitting the attenuated signal by an antenna, wherein the antenna is located in a shielded anechoic chamber (figure 3, chamber 102) with a reflector (figure 4C, reflector 142), and the reflector reflects the attenuated signal to generate a reflected signal; receiving the attenuated signal and the reflected signal by a communication device (figure 3, device 10) located within the shielded anechoic chamber; and a control unit (figure 3, central

computer system 134) coupled directly to the signal generator (processor 120) and the attenuating device (column 5 lines 39-43, attenuator 112A, transmitter 108 is considered an attenuator since the signal level of the transmitter 108 is adjustable).

Telewski fails to specifically disclose the system is for multi-path simulation.

In the same field of endeavor, Kildal discloses a system for multi-path simulation wherein a number of simulation modes are provided for increasing simulation efficiency (paragraphs 4-6,13-17, figures 1-7), shifting the antenna to simulate a phase shift between a direct transmission path and a main indirect transmission path of the signal (simulating in different modes including primary direction of propagation and multi-path propagations); rotating the turntable to change a reception azimuth of the communication device (Kildal, figure 6, rotating table 11); adjusting a position of the antenna and changing the phase shift between the direct transmission path and the main indirect transmission path of the signal (Kildal, figure 6, rotating table 11 adjusts the position of the antenna and therefore inherently changes the phase shift between the direct transmission path and the main indirect transmission path of the signal).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the selection techniques taught by Kildal into the art of Telewski as to use the turn table 11 of Kildal to adjust antenna 104 of Telewski to simulate multi-path in wireless communication for increasing simulation efficiency, thus Telewski as modified by Kildal discloses adjusting a position of the antenna (turn table 11 adjusts antenna 104) and therefore changing the phase shift between the direct transmission path and the main indirect transmission path of the

signal by utilizing a control unit (central computer system 134) coupled directly to the signal generator (processor 120) and the attenuating device (transmitter 108 is considered an attenuator since the signal level of the transmitter 108 is adjustable, and attenuator 112A).

Response to Amendment

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. **Claims 1-7, 9-11 and 13-17** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Telewski (US Patent 6021315)** in view of **Kildal (US Pub. 2004/0183547).**

Consider **claim 1**, Telewski discloses a system for wireless communication simulation comprising (Abstract): a signal generator (figure 3, central computer system

134, processor 120 and transmitter 108 for generating a transmit signal) for generating a signal; an attenuating device (figure 3, attenuator 112A, column 5 lines 5-43) coupled to the signal generator for attenuating the signal and generating an attenuated signal to simulate an attenuation resulting from a transmission of the signal (figure 3, attenuator 112A simulates attenuation of the transmission signal); and a shielded anechoic chamber (figure 3, waveguide chamber 102) comprising: an antenna (figure 3, antenna 104) coupled to the attenuating device for transmitting the attenuated signal; and a reflector (figure 4C, column 8 lines 30-44, reflector 142) for reflecting the attenuated signal to generate a reflected signal; and a control unit (figure 3, central computer system 134) coupled to the signal generator (figure 3, central computer system 134, processor 120 and transmitter 108 for generating and controlling a transmit signal) and the attenuating device (attenuator 112A, the signal level of the transmitter 108) for controlling a generation of the signal and adjusting an attenuating range of the attenuating device (column 5 lines 39-43).

Telewski fails to specifically disclose the system is for multi-path simulation, wherein the antenna can be shifted to simulate a phase shift between a direct path and a main indirect path of the system.

In the same field of endeavor, Kildal discloses a system includes an anechoic chamber for multi-path simulation wherein a number of simulation modes are provided for increasing simulation efficiency, the antenna can be shifted to simulate a phase shift between a direct path and a main indirect path of the system (paragraphs 4-6,13-17, figures 1-7).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the selection techniques taught by Kildal into the art of Telewski as to include the simulation modes to simulate multi-path in wireless communication for increasing simulation efficiency.

Consider **claim 2 as applied to claim 1**, Telewski as modified by Kildal discloses wherein the shielded anechoic chamber further comprises: a communication device for receiving the attenuated signal and the reflected signal (Telewski, figure 3, wireless communication device 10).

Consider **claim 3 as applied to claim 1**, Telewski as modified by Kildal discloses wherein the signal generator is a vector signal generator (Telewski, column 1 lines 10-23, figure 3).

Consider **claim 4 as applied to claim 2**, Telewski as modified by Kildal discloses wherein the signal generator is a Golden Sample of the communication device (Telewski, figure 3).

Consider **claim 5 as applied to claim 1**, Telewski as modified by Kildal discloses wherein the attenuating device is a step attenuator (Telewski, attenuator 112A is adjustable).

Consider **claim 6 as applied to claim 1**, Telewski as modified by Kildal discloses wherein the antenna is a dipole antenna (Kildal, paragraph 18).

Consider **claim 7 as applied to claim 2**, Telewski as modified by Kildal discloses wherein the antenna is deployed between the reflector and the

communication device (Telewski, figure 5A, antenna 104, reflector 142, wireless communication device 10).

Consider **claim 9 as applied to claim 2**, Telewski as modified by Kildal discloses further comprising: a control unit coupled to the communication device for acquiring signal properties received by the communication device (Telewski, figure 3, processor 120 connected with wireless device 10).

Consider **claim 10 as applied to claim 2**, Telewski as modified by Kildal discloses wherein the shielded anechoic chamber further comprises: a turntable for setting the communication device and changing a reception azimuth of the communication device (Kildal, figures 2-7, the communication device 9 is placed at different levels).

Consider **claim 11 as applied to claim 2**, Telewski as modified by Kildal discloses wherein the shielded anechoic chamber further comprises: a movable platform for setting and shifting the antenna (Kildal, figures 2-7, antenna 3 is placed at different locations).

Consider **claim 13**, Telewski discloses a method for wireless communication simulation comprising: generating a signal utilizing a signal generator (figure 3, central computer system 134, processor 120 and transmitter 108 for generating a transmit signal); attenuating (figure 3, attenuator 112A) the signal to generate an attenuated signal for simulating an attenuation resulting from a transmission of the signal (figure 3, attenuator 112A simulates attenuation of the transmission signal); transmitting the attenuated signal by an antenna, wherein the antenna is located in a shielded anechoic

chamber (figure 3, chamber 102) with a reflector (figure 4C, reflector 142), and the reflector reflects the attenuated signal to generate a reflected signal; receiving the attenuated signal and the reflected signal by a communication device (figure 3, device 10) located within the shielded anechoic chamber; and a control unit (figure 3, central computer system 134) coupled directly to the signal generator (processor 120) and the attenuating device (column 5 lines 39-43, attenuator 112A, transmitter 108 is considered an attenuator since the signal level of the transmitter 108 is adjustable).

Telewski fails to specifically disclose the system is for multi-path simulation.

In the same field of endeavor, Kildal discloses a system for multi-path simulation wherein a number of simulation modes are provided for increasing simulation efficiency (paragraphs 4-6,13-17, figures 1-7), shifting the antenna to simulate a phase shift between a direct transmission path and a main indirect transmission path of the signal (simulating in different modes including primary direction of propagation and multi-path propagations); rotating the turntable to change a reception azimuth of the communication device (Kildal, figure 6, rotating table 11); adjusting a position of the antenna and changing the phase shift between the direct transmission path and the main indirect transmission path of the signal (Kildal, figure 6, rotating table 11 adjusts the position of the antenna and therefore inherently changes the phase shift between the direct transmission path and the main indirect transmission path of the signal).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the selection techniques taught by Kildal into the art of Telewski as to include the turn table 11 to simulate multi-path in wireless

communication for increasing simulation efficiency, thus Telewski as modified by Kildal discloses adjusting a position of the antenna and changing the phase shift between the direct transmission path and the main indirect transmission path of the signal utilizing a control unit coupled directly to the signal generator and the attenuating device.

Consider **claim 14 as applied to claim 13**, Telewski as modified by Kildal discloses wherein the signal is generated by a vector signal generator (Telewski, column 1 lines 10-23, figure 3).

Consider **claim 15 as applied to claim 13**, Telewski as modified by Kildal discloses wherein the signal is generated by a Golden Sample of the communication device (Telewski, figure 3).

Consider **claim 16 as applied to claim 13**, Telewski as modified by Kildal discloses wherein the signal is attenuated by a step attenuator (Telewski, attenuator 112A is adjustable).

Consider **claim 17 as applied to claim 13**, Telewski as modified by Kildal discloses wherein the antenna is deployed between the reflector and the communication device (Telewski, figure 5A, antenna 104, reflector 142, wireless communication device 10).

Claims 12 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Telewski (US Patent 6021315)** as modified by **Kildal (US 2004/0183547)** in view of **Leather et al. (US 2006/0055592).**

Consider **claim 12 as applied to claim 2, claim 20 as applied to claim 13,** Telewski as modified by Kildal fails to disclose wherein the communication device is deployed in a quiet zone of the shielded anechoic chamber.

In the same field of endeavor, Leather et al. disclose wherein the communication device is deployed in a quiet zone of the shielded anechoic chamber (paragraph 63, figure 3, test zone or quiet zone).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the selection techniques taught by Leather et al. into the art of Telewski as modified by Kildal as to include the quiet zone for increasing simulation efficiency.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any response to this Office Action should be **faxed to** (571) 273-8300 **or mailed to:**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RuiMeng Hu whose telephone number is 571-270-1105. The examiner can normally be reached on Monday - Thursday, 8:00 a.m. - 5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on 571-272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

RuiMeng Hu
R.H./rh
July 28, 2008

/Edward Urban/

Supervisory Patent Examiner, Art Unit 2618

Application Number	Application/Control No.	Applicant(s)/Patent under Reexamination	
	10/663,664	LIU, I-RU	
	Examiner	Art Unit	
	RuiMeng Hu	2618	